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PROCUREMENT SECTION
CURRENT SERIAL RECORDS

WATER SUPPLY OUTLOOK FOR WASHINGTON

Prepared by

U. S. DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE

Collaborating with

DEPARTMENT OF ECOLOGY STATE OF WASHINGTON

Data included in this report were obtained by the agencies named above in cooperation with the U.S. Forest Service, U.S. Geological Survey, National Park Service, and other Federal, State and Private organizations.

AS OF
MAY 1, 1973

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, Western Regional Technical Service Center, Room 209, 511 N. W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	204 E. 5th. Ave., Room 217, Anchorage, Alaska 99501
Arizona	6029 Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 970, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1218 S. W. Washington St., Portland, Oregon 97205
Utah	4012 Federal Bldg., 125 South State St., Salt Lake City, Utah 84111
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82601

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia



COVER PHOTO NUMBER ORC-286-4

WATER SUPPLY OUTLOOK FOR WASHINGTON

and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued by

KENNETH E. GRANT

ADMINISTRATOR
SOIL CONSERVATION SERVICE
WASHINGTON, D C

|||||
Released by

GALEN S. BRIDGE

STATE CONSERVATIONIST
SOIL CONSERVATION SERVICE
SPOKANE, WASHINGTON

In Cooperation with

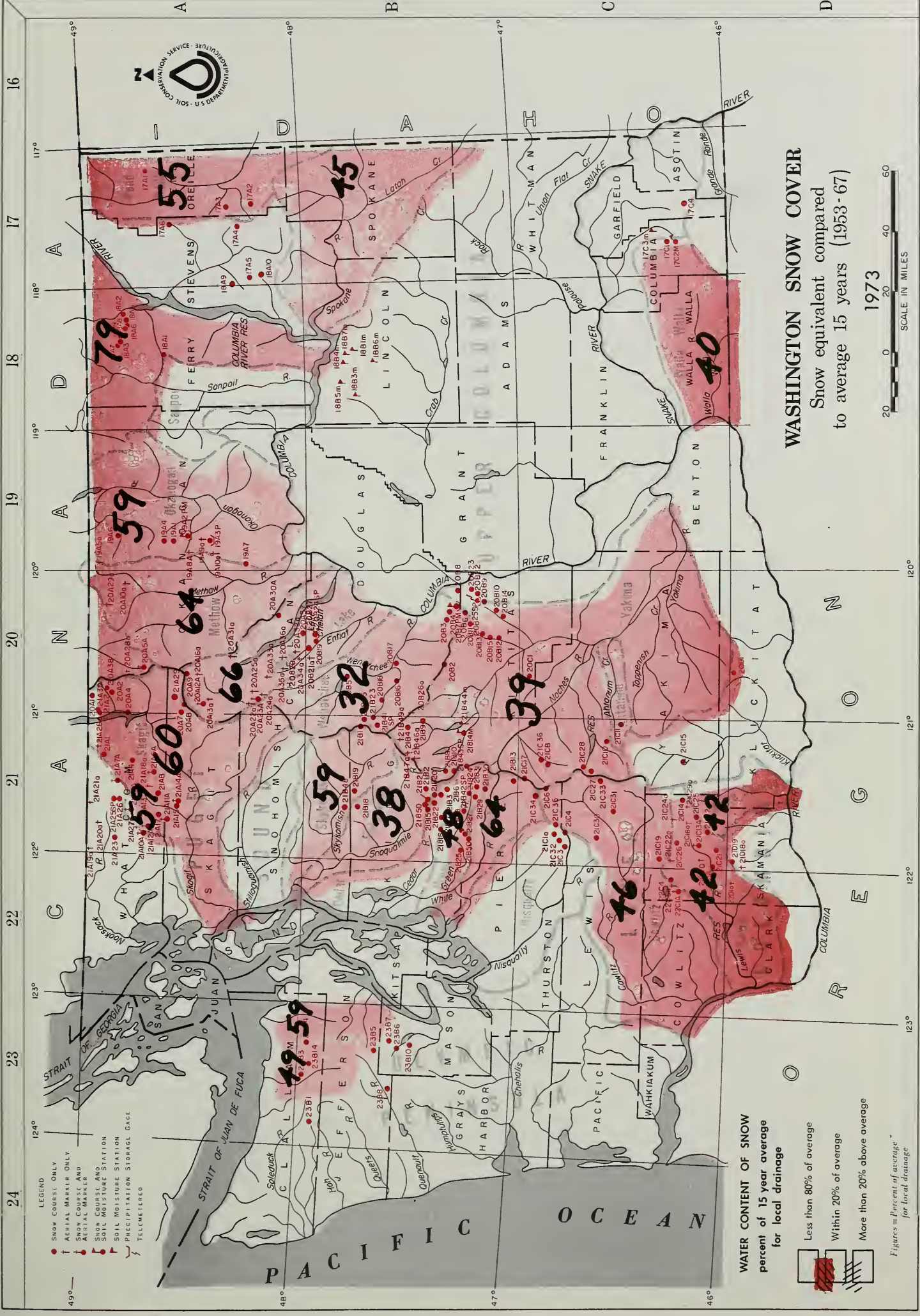
JOHN A. BIGGS

DIRECTOR
DEPARTMENT OF ECOLOGY
STATE OF WASHINGTON
|||||

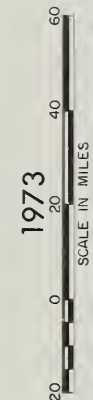
Report prepared by

ROBERT T. DAVIS, Snow Survey Supervisor

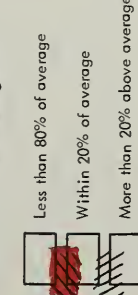
SOIL CONSERVATION SERVICE
360 U.S. COURTHOUSE
SPOKANE, WASHINGTON 99201



WASHINGTON SNOW COVER Snow equivalent compared to average 15 years (1953-67)



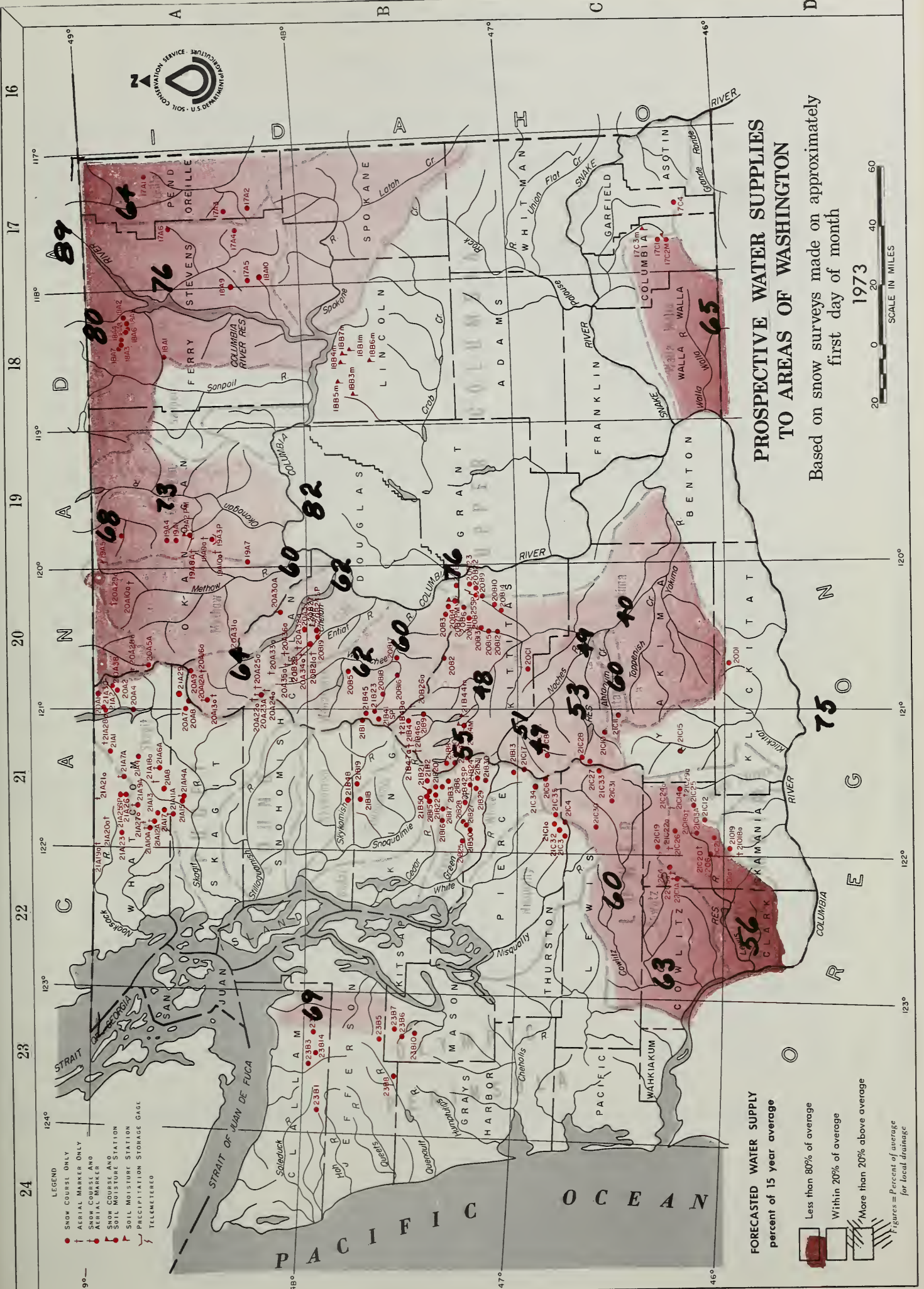
WATER CONTENT OF SNOW
percent of 15 year average
for local drainage



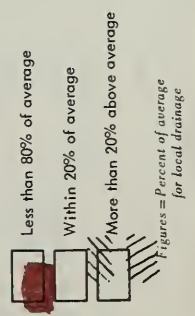
Figures = Percent of average
for local drainage

INDEX to WASHINGTON SNOW COURSES, SOIL MOISTURE STATIONS, and PRECIPITATION STORAGE GAGES

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.	NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
UPPER COLUMBIA DRAINAGE											
Pend Oreille River											
Boyer Mountain	17A2	7	31N	13E	5250	Colockum Creek Upper	20B22	11	20N	20E	5300
Bunchgrass Meadow	17A1	24	37N	41E	5000	Colockum Creek Lower	20B23	1	20N	20E	4300
Winchester Creek	17A3	30	33N	43E	2970	Squillchuck Creek	20B3	12	21N	19E	4400
						Scout-A-Vista	20B4	18	21N	20E	3100
Kettle River											
Boulder Road	18A2	36	39N	36E	1450	Stemilt Creek	20B8	34	21N	20E	4450
Butte Creek	18A3	28	39N	35E	4070	Jump-Off	20B6	30	21N	20E	5000
Cabin Creek	18A8	5	38N	36E	3170	Stemilt Slide	20B7	30	21N	20E	4400
Goat Creek	18A4	26	39N	35E	3595	Upper Wheeler	20B7N	30	21N	20E	4400
Snow Caps Creek	18A5	3	38N	36E	2150	Crab Creek	18B1	32	27N	34E	2440
Snow Caps Trail	18A6	5	38N	36E	2720	Creston-Kinz	18B1m	32	27N	34E	2440
Summit G. S.	18A7	20	39N	35E	4600	Jack Woods	18B3m	28	27N	31E	2750
Colville River											
Baird	17A6	19	36N	42E	3215	Krause	18B4m	21	27N	33E	2420
Carlson	18A9	34	32N	38E	2885	Sheffels	18B5m	17	27N	32E	2378
Chewelah	17A4	11	32N	41E	4925	Sherman	18B7m	24	27N	33E	2440
Stranger Mountain	17A5	26	31N	38E	4990	Whentridge	18B6m	24	25N	32E	2290
Togo	18A10	6	29N	38E	3370	Yakima River	21C11	26	12N	14E	3100
Sanpoil River											
Sherman Creek Pass	18A1	19	36N	35E	5350	Ahtanum R. S.	21B9	35	23N	14E	3200
Okanogan River											
Clark	19A8A	2	36N	23E	7000	Big Boulder Creek	21C8	23	16N	12E	3450
Muckamuck	19A9a	20	36S	24E	6750	Bumping Lake	21C3b	16	12N	13E	3400
Nutton Creek No. 1	19A1	30	37N	24E	5700	Bumping Lake New	20B9	25	20N	20E	5370
Nutton Creek No. 2	19A4	19	37N	24E	6000	Colockum Pass	20B10	17	19N	20E	4123
Pasayten	20A2A	32	40N	18E	4300	Cooke Creek	20B10	17	19N	20E	4123
Rusty Creek	19A3P	18	35N	24E	4000	Domery Flat	21B4m	15	20N	14E	2200
Salmon Meadows	19A2PM	33	37N	24E	4500	Fish Lake	21C10	34	24N	14E	3371
Starvation Mtn.	19A10a	15	35N	23E	6750	Green Lake	21C10	3	12N	13E	6000
Touts Coulee	19A6	30	39N	25E	2845	Grouse Camp	20B81	29	21N	19E	5385
Methow River											
Billy Goat Pass	20A10a	10	38N	20E	6400	High Creek	20B82	32	20N	19E	2930
Dollar Watch	20A29a	8	39N	20E	7000	Joe Lake	21B46a	22	23N	12E	4624
Harts Pass	20A5A	7	37N	18E	6500	Lake Cle Elum	21B47a	7	23N	13E	3327
Horseshoe Basin	19A5A	15	40N	23E	7000	Lemah Creek	20C1	24	17N	16E	5955
Loup Loop	19A7	36	34N	23E	4650	Morse Lake	21C17	6	16N	11E	5400
Chelan Lake Basin											
Cloudy Pass	20A22a	12	31N	15E	6500	Nanum	20B83	4	20N	19E	3875
Greenwood Flat	20A25a	3	31N	16E	3540	Trail Creek	20B84	20	19N	20E	3360
Little Meadows	20A24a	8	31N	16E	5275	Tunnel Avenue	21B8A	13	23N	11E	5925
Lynn Lake	20A23a	18	31N	16E	5900	Van Epps Pass	20B26a	16	23N	15E	5925
Park Creek Flat	20A13a	18	34N	16E	2220	Walters Flat	20B85	22	20N	19E	3360
Park Creek Ridge	20A12a	7	34N	16E	4600	Naptus Lake	21B49a	12	23N	13E	3024
Petersons	20A16a	3	34N	17E	3730	White Pass (East Side)	21C28	2	13N	11E	4500
Rainy Pass	20A9	21	35N	17E	4780	White Pass (Leach Lake)	21C27	1	13N	11E	4500
Safety Harbor	20A30A	32	31N	20E	6300						
War Creek Pass	20A31a	34	33N	18E	6500						
Entiat River											
Brief	20B19	34	28N	19E	1600						
Entiat Meadows	20A33a	28	31N	17E	4800						
Entiat River Trail	20A34a	2	29N	17E	3150						
Four Mile Ridge	20B27a	15	28N	19E	7000						
Fox Camp	20A36a	17	30N	18E	6510						
Pope Ridge	20B20	22	29N	18E	4300						
Pope Ridge Snow Pillow	20B24SP	22	29N	18E	4300						
Pugh Ridge	20A32a	34	30N	18E	6400						
Shady Pass	20A37	20	29N	19E	6200						
Snow Brushy	20A35a	21	30N	17E	3850						
Tommy Creek	20B21a	10	28N	18E	5300						
Wenatchee River											
Berne-Mill Creek	21B23	7	26N	15E	2925						
Berne-Mill Creek (New)	21B41SP	13	26N	14E	3240						
Blewett Pass No. 2	20B2	35	22N	17E	4270						
Chiwaukum G. S.	20B16	4	25N	17E	1810						
Lake Wenatchee	20B85	33	27N	17E	1970						
Leavenworth R. S.	20B17	1	24N	17E	1127						
Nerritt	20B18	4	26N	16E	2140						
Stevens	21B1	14	26N	13E	4070						
Stevens Pass	21B45	12	26N	19E	3700						
Stevens Pass Sand Shed	20B25SP	10	26N	20E	5310						
Trough #2											
LOWER COLUMBIA DRAINAGE											
Asotin Creek											
Spruce Springs	17C4	9	BN	40E	5700						
Mill Creek											
Couse	17C3m	2	9N	35E	3370						
Homestead	17C1	11	9N	40E	4030						
Martin Springs (Helmets SW)	17C2M	23	9N	40E	4400						
Klickitat River											
Satus Pass	20B1	21	6N	17E	4030						
West Fork Cabin	21C1S	23	9N	12E	3000						
White Salmon River											
Cultus Creek	21C12	35	7N	BE	4000						
Lewis River											
Blue Lake	21C22a	19	9N	BE	4800						
Bob's Trail	21C21	25	BN	7E	2200						
Calamity Ridge	22D1a	8	5N	5E	2500						
Council Pass	21C18a	24	5N	9E	4200						
Snoqualmie River											
Alpine Meadow	21B4B	31	27N	9E	3500						
Olallie Meadows	21B2	19	22N	11E	3625						
South Fork Tolt	21B1B	26	26N	9E	1900						
Skykomish River											
Lake Elizabeth	21B19	33	26N	10E	2900						
Skagit River											
Beaver Creek Trail	21A4	35	39N	12E	2200						
Beaver Pass	21A1	9	39N	12E	3680						
Brown Top	21A28a	26	40N	12E	6000						
Devils Park	20A4	34	38N	16E	5900						
Freezeout Creek Trail	20A1	14	40N	14E	5500						
Freezeout Meadows	20A2	18	40N	14E	3500						
Freezeout Meadows New	20A38	8	40N	16E	5000						
Granite Creek	21A29	25	36N	16E	3500						
Lake Hoizeen	21A2	19	40N	14E	2600						
Meadows Cabins	20A8	29	36N	14E	1900						
New Hoizeen Lake	20A7	19	40N	14E	2800						
Thunder Basin	21A30	15	35N	14E	4200						
Baker River											
Baker Pass	21A27a	1	37N	7E	4900						
Dock Butte	21A11a	8	36N	BE	3800						
Easy Pass	21A7a	17	39N	11E	5200						
Jasper Pass	21A6a	19	38N	11E	5800						
Kono Kulshan	21A17	31	37N	9E	800						
Morton Lake	21A9a	23	38N	BE	3600						
Mount Blum	21A18a	27	38N	10E	5800						
Rocky Creek	21A12a	20	37N	8E	2100						
Schreibers Meadow	21A10a	18	37N	8E	3400						
S. F. Thunder Creek	21A14a	20	36N	9E	2200						
Sulphur Creek	21A13	22	37N	8E	1600						
Three Mile Creek	21A15	18	36N	9E	4300						
Watson Lakes	21A8	25	37N	9E	4500						
Nooksack River											
Bald Mountain	21A19a	7	40N	7E	4400						
Canyon	21A20a	20	40N	8E	5100						
Glacier Creek	21A23	9-10	38N	7E	3700						
Panorama New Pillow	21A26	17	39N	9E	4300						
Twin Lakes	21A25SP	17	39N	9E	4300						
	21A21a	16	40N	9E	5200						
OLYMPIC PENINSULA											
Dungeness River											
Deer Park	23B4	1	28N	5W	5200						
Morse Creek											
Cox Valley	23B14	29	28N	6W							
Elwha River											
Hurricane	23B5	36	29N	7W	4500						
Skokomish River											
Black and White	23B7	17	24N	5W	4200						
Black and White Lakes	23B6	16	24N	5W	4700						
Four Stream	23B10	1	23N	6W	3000						
Home Sweet Home	23B5	28	25N	5W	3000						
Sundown Pass	23B8	25	24N	7W	3900						
Soladuck River											
Deer Lake	23B1	14	28N	9W	3900						
LEGEND											
21A7 SNOW COURSE ONLY											
21A2a SNOW COURSE AND AERIAL MARKER											
21A2b SNOW COURSE AND AERIAL MARKER											
21A2c SNOW COURSE AND AERIAL MARKER											
21A2d SNOW COURSE AND AERIAL MARKER											
21A2e SNOW COURSE AND AERIAL MARKER											
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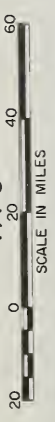
FORECASTED WATER SUPPLY
percent of 15 year average



PROSPECTIVE WATER SUPPLIES TO AREAS OF WASHINGTON

Based on snow surveys made on approximately
first day of month

1973



INDEX to WASHINGTON SNOW COURSES, SOIL MOISTURE STATIONS and PRECIPITATION STORAGE GAGES

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
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Morton Creek No. 1	19A1	30	37N	24E	5700
Morton Creek No. 2	19A4	19	37N	24E	6000
Paysaaten	20A28a	32	40N	18E	4300
Rusty Creek	19A3P	18	35N	24E	4000
Salmon Meadows	19A2PM	33	37N	24E	4500
Starvation Mtn.	19A10P	15	35N	23E	6750
Tours Coulee	19A6	30	39N	25E	2845
Methow River					
Billy Goat Pass	20A10a	10	38N	20E	6400
Dollar Hatch	20A29a	8	39N	20E	7000
Harts Pass	20A5a	7	37N	18E	6500
Horseshoe Basin	19A5a	15	40N	23E	7000
Loop Loop	19A7	36	34N	23E	4650
Chelan Lake Basin					
Cloudy Pass	20A22a	12	31N	15E	6500
Greenwood Flat	20A25a	3	31N	16E	3540
Little Meadows	20A24a	8	31N	16E	5275
Lyman Lake	20A23a	18	31N	16E	5900
Park Creek Flat	20A13a	18	34N	16E	2220
Park Creek Ridge	20A12a	7	34N	16E	4600
Petersons	20A16a	3	34N	17E	3730
Rainy Pass	20A9	21	35N	17E	4780
Safety Harbor	20A30a	32	31N	20E	6300
War Creek Pass	20A31a	34	33N	18E	6500
Entiat River					
Brief	20B19	34	28N	19E	1600
Entiat Meadows	20A33a	28	31N	17E	4800
Entiat River Trail	20A34a	2	29N	17E	3150
Four Mile Ridge	20B27a	15	28N	19E	7000
Fox Camp	20A36a	17	30N	18E	6510
Pope Ridge	20B20	22	29N	18E	4300
Pope Ridge Snow Pillow	20B24SP	22	29N	18E	4300
Pugh Ridge	20A32a	34	30N	18E	6400
Shady Pass	20A37	20	29N	19E	6200
Snow Brushy	20A35a	21	30N	17E	3850
Tommy Creek	20B21a	10	28N	18E	5300
Wenatchee River					
Berne-Mill Creek	21B23	7	26N	15E	2925
Berne-Mill Creek (New)	21B41SP	13	26N	14E	3240
Blewett Pass No. 2	20B2	35	22N	17E	4270
Chiwaukum G. S.	20B16	4	25N	17E	1810
Lake Wenatchee	20B5	33	27N	17E	1970
Leavenworth R. S.	20B17	1	24N	17E	1127
Nerrett	20B18	4	26N	16E	2140
Stevens Pass	21B1	14	26N	13E	4070
Stevens Pass Sand Shed	21B45	12	26N	19E	3700
Trough #2	20B25SP	10	20N	20E	5310
LOWER COLUMBIA DRAINAGE					
Asotin Creek					
Spruce Springs	17C4	9	BN	40E	5700
Mill Creek					
Couse	17C3m	2	9N	35E	3370
Homestead	17C1	11	9N	40E	4030
Martin Springs (Helmers SM)	17C2N	23	9N	40E	4400
Klickitat River					
Status Pass	20D1	21	6N	17E	4030
West Fork Cabin	21C15	23	9N	12E	3000
White Salmon River					
Cultus Creek	21C12	35	7N	8E	4000
Lewis River					
Blue Lake	21C22a	19	9N	8E	4800
Bob's Trail	21C21	25	8N	7E	2500
Calamity Ridge	22D1a	8	5N	5E	2200
Council Pass	21C18a	24	9N	9E	4200
Colockum Creek					
Colockum Creek Upper	20B22	11	20N	20E	5300
Colockum Creek Lower	20B23	1	20N	20E	4300
Squilechuck Creek					
Beehive Springs	20B3	12	21N	19E	4400
Scout A Vista	20B4	18	21N	20E	3400
Stemilt Creek					
Jump-Off	20B6	34	21N	20E	4450
Stemilt Slide	20B8	30	21N	20E	5000
Upper Wheeler	20B7PM	30	21N	20E	4400
Crab Creek					
Creston-Kunz	18B1m	32	27N	34E	2440
Jack Woods	18B3m	28	27N	31E	2750
Krause	18B4m	21	27N	33E	2420
Sheffels	18B5m	17	27N	32E	2378
Sherman	18B7m	24	27N	33E	2440
Wheatridge	18B6m	24	25N	32E	2290
Yakima River					
Ahtanum R. S.	21C11	26	12N	14E	3100
Big Boulder Creek	21B9	35	23N	14E	3200
Bumping Lake	21C8	23	16N	12E	3450
Bumping Lake Now	21C36	13	16N	12E	3400
Colockum Pass	20B9	25	20N	20E	5370
Cooke Creek	20B10	17	19N	20E	4123
Domery Flat	21B44m	15	20N	14E	2200
Fish Lake	21B4	34	24N	14E	3371
Green Lake	21C10	3	12N	13E	6000
Grouse Camp	20B11	29	21N	19E	5385
High Creek	20B12	34	20N	19E	2930
Joe Lake	21B46a	22	23N	12E	4624
Lake Cle Elum	21B44N	15	20N	14E	2200
Lemah Creek	21B47a	7	23N	13E	3527
Nasataash	20C1	24	17N	16E	3935
Norse Lake	21C17	6	16N	11E	5400
Natum	20B13	4	20N	19E	3875
Trail Creek	20B14	20	19N	20E	3360
Tunnel Avenue	21B8	13	21N	11E	2450
Van Epps Pass	20B26a	16	23N	15E	5925
Walters Flat	20B15	12	20N	19E	3360
Wapute Lake	21B49a	22	23N	13E	3024
White Pass (East Side)	21C28	2	13N	11E	4500
White Pass (Leach Lake)	21C27	1	13N	11E	4500
Green River					
Airstrip	21B24	18	20N	11E	1800
Charley Creek	21B25	27	21N	8E	1200
Cougar Mountain	21B42SP	21	21N	9E	3200
Grass Mountain No. 2	21B27	14	20N	8E	2900
Grass Mountain No. 3	21B28	12	20N	8E	2100
Lester Creek	21B29	36	20N	10E	3100
Lynn Lake	21B50	21	20N	8E	4000
Sawmill Ridge	21B31	5	19N	11E	4700
Snowshoe Butte	21B43SP	14	20N	11E	5000
Stampede Pass	21B10	25	21N	11E	3000
Twin Camp	21B30	18	19N	11E	4100
Cedar River					
City Cabin	21B3	10	21N	10E	2390
Mt. Gardner	21B21	30	22N	10E	3300
Mt. Gardner Aux.	21B22	31	22N	10E	2500
Mt. Lindsay	21B16	31	22N	9E	2500
Mt. Washington	21B15	8	22N	9E	3000
Mt. Washington New	21B50	8	22N	9E	3000
Rex River	21B17	11	21N	9E	2400
South Fork Cedar	21B6	24	21N	10E	3000
Tinkham Creek	21B20	1	21N	10E	3400
Snoqualmie River					
Alpine Meadow	21B48	31	27N	9E	3500
Olallie Meadows	21B2	19	22N	11E	3625
South Fork Toit	21B18	26	26N	9E	1900
Skykomish River					
Lake Elizabeth	21B19	33	26N	10E	2900
White River					
Black and White	23B7	17	24N	5W	4200
Black and White Lakes	23B6	16	24N	5W	4700
Four Stream	23B10	1	23N	6W	3000
Home Sweet Home	23B5	28	25N	5W	5200
Sundown Pass	23B8A	25	24N	7W	3900
Soleduck River					
Deer Lake	23B1	14	28N	9W	3900
Skokomish River					
Black and White	23B7	17	24N	5W	4200
Black and White Lakes	23B6	16	24N	5W	4700
Four Stream	23B10	1	23N	6W	3000
Home Sweet Home	23B5	28	25N	5W	5200
Sundown Pass	23B8A	25	24N	7W	3900
Dungeness River					
Deer Park	23B4	1	28N	5W	5200
Morse Creek					
Cox Valley	23B14	29	28N	6W	
Elwha River					
Hurricane	23B3	36	29N	7W	4500
Skokomish River					
Black and White	23B7	17	24N	5W	4200
Black and White Lakes	23B6	16	24N	5W	4700
Four Stream	23B10	1	23N	6W	3000
Home Sweet Home	23B5	28	25N	5W	5200
Sundown Pass	23B8A	25	24N	7W	3900
Soleduck River					
Deer Lake	23B1	14	28N	9W	3900

LEGEND
NUMBERING SYSTEM EXAMPLE
21A7 SNOW COURSE ONLY
21A7B SERIAL MARKER ONLY
21A7C SNOW COURSE AND SERIAL MARKER
21A7M SNOW COURSE AND SOIL MOISTURE STATION
21A7B SNOW COURSE AND SOIL MOISTURE STATION
21A7P SNOW COURSE AND PRECIPITATION STORAGE GAGE
21A7SP PRECIPITATION STORAGE GAGE
21A7SP SNOW PILLOW

WATER SUPPLY OUTLOOK

State of Washington

May 1, 1973

* The water supply situation in the Columbia Basin in Canada and *
* Washington has deteriorated from that which was reported last *
* month. Runoff was well below normal and precipitation was well *
* below normal. When this situation occurs, quite often there is *
* an offsetting influence, but this year the lack of precipitation *
* has the stronger influence and most forecasts have been lowered *
* from 3 to 10% for the remaining runoff period. The situation now *
* is very similar to that which occurred in 1963 over most of the *
* Columbia Basin. The one redeeming factor in that year was the *
* well above normal rainfall that occurred in April and May. This *
* has not occurred this year. A comparison of forecasts with runoff *
* records for 1963 indicates that most streams will flow approxi- *
* mately the same amount. Some, like the Lewis, will be worse. *
* The snow pack over the basin now ranges from a low of 32% of *
* normal on the Wenatchee River to a high of 79% for the Kettle. *
* These figures are somewhat misleading when compared to earlier *
* readings, as many of the snow courses which normally have snow on *
* May 1 are now bare. Precipitation records, as supplied by the *
* National Weather Service, range from zero precipitation, as *
* measured at Winthrop, to a few isolated stations which reported *
* normal or above rainfall. The drainage division averages range *
* from a low of 19% for the North Central Division to 54% for the *
* North Eastern Division. The Columbia in Canada had a rainfall *
* that was 72% of normal. Runoff, likewise, was very low during *
* the month, ranging from 18% for the Yakima at Kiona to a high of *
* 73% for the Columbia as measured at Birchbank. *

SNOW COVER

As reported last month, the pack continues to be the lowest in the state since 1963. The previous lows were the years of 1942, 1944 and 1954. A ten year cycle seems to be occurring. The several watersheds in the upper Columbia Basin range from 68% below normal for the Wenatchee River to 21% below normal for the Kettle. On the Lower Columbia, the snow cover ranges from 60% below normal to 54% below. Along the Puget Sound, the snow cover ranges from 62% below normal to 56% below and on the Olympic Peninsula, from 51% below to 41% below. Compared to the high snowfall year of 1972, the percentage figures are considerably less.

RESERVOIRS

The reservoirs are reported to have below normal amounts of water in storage as of May 1, with the exception of three small irrigation reservoirs and Ross Reservoir in the Skagit drainage. Last month only a few reservoirs had less than normal amounts of water in storage, but the lack of inflow during the month of April has hurt all of these storage projects. As reported last month, careful management and normal to above precipitation will be required for the irrigation reservoirs to supply adequate water. Precipitation has been subnormal and it is now anticipated that many reservoirs will not fill under normal conditions. Power shortages have already been felt and will become more pronounced as further cuts of industrial power will occur.

PRECIPITATION

The main thing about precipitation, as reported by the National Weather Service, was the lack of it during the month of April. Some areas reported no measureable amounts during the month and several reported only one or two hundredths of an inch occurred for the total months catch. The lowest division for rainfall was the North Central which had only 19% normal rainfall. This increased to 54% in the North Eastern portion of the state and on up to 72% for the Columbia River in Canada.

STREAMFLOW

Runoff during the month of April was all well below normal with the greatest amount occurring on the Columbia River, as measured at Birchbank - 27% below normal. This dropped 10% due to the influence of the Pend Oreille River, as measured at International Boundary. The low point in the state was the Yakima River at Kiona, having only 18% of a normal runoff for the month. Runoff forecasts have been generally reduced and now range from a high of 89% of normal for the Columbia at Birchbank for the May-September period, to a low of 40% of normal for the Yakima River, as measured near Parker. Numerical forecasts can be found in the following tabulations.



STREAMFLOW FORECASTS - MAY 1973

The following summarized runoff forecasts are based principally on mountain snow cover and on the assumption that precipitation and temperature will be near average from the present time to the end of the forecast period. Appreciable deviations from normal of temperature and/or precipitation will correspondingly modify these forecasts. Streamflow figures for 1972 are preliminary and subject to revision.

Basin, Stream and Station	Forecast Runoff 1973	%	15-Yr. Avg.	Seasonal Streamflow in Thousands of Acre-Ft.			
				Fore- cast Period	1972	1971	1970
							15-Yr. Average 1953-67
<u>COLUMBIA BASIN</u>							
<u>Columbia River System</u>							
Columbia River	38730	89		May-Sep	53649	45815	33048
at Birchbank <u>1/</u>	32800	87		May-Jul	43659	36572	26426
	20600	85		May-Jun	31436	26832	19447
Columbia River	51500	82		May-Sep	77387	70587	50708
at Grand Coulee <u>1/</u>	41800	80		May-Jul	65326	59185	42654
	30600	73		May-Jun	49770	45787	33665
Columbia River bl.	52400	76		May-Sep	89947	77135	54409
Rock Island Dam <u>1/</u>	42550	74		May-Jul	76536	65272	46101
	31500	73		May-Jun	58145	50620	36540
Columbia River at	69350	75		May-Sep	119696	111538	80458
The Dalles, OR <u>1/</u>	59550	77		May-Jul	102877	95734	68366
	44150	74		May-Jun	81356	76390	55159
<u>Pend Oreille River System</u>							
Pend Oreille River	8900	64		May-Sep	17909	16692	13567
bl. Box Canyon	7850	62		May-Jul	16306	15402	12506
	6400	60		May-Jun	13726	12997	10815
<u>Kettle River System</u>							
Kettle River	1300	80		May-Sep	2068	2020	1005
nr. Laurier	1250	80		May-Jul	1984	1956	974
	1100	79		May-Jun	1743	1707	910

1/ Observed flow corrected for storage in any of the following reservoirs which are above the station: Kootenay Lake, Hungry Horse, Flathead Lake, Pend Oreille Lake, F. D. Roosevelt Lake, Lake Chelan, Coeur d'Alene Lake, Brownlee, Noxon Reservoir and pumpage at F. D. Roosevelt Lake.

Streamflow Forecasts - May 1973 (Cont.)

Basin, Stream and Station	Forecast Runoff 1973	% 15-Yr. Avg.	Fore- cast Period	Seasonal Streamflow in Thousands of Acre-Ft.			
				1972	1971	1970	15-Yr. Average 1953-67
<u>Kettle River System (Cont.)</u>							
Colville River	76	78	May-Sep	76	108	63	98
at Kettle Falls	66	77	May-Jul	65	96	54	86
	58	76	May-Jun	56	84	49	76
<u>Spokane River System *</u>							
Spokane River	1010	48	May-Sep	3100	2984	1952	2120
at Post Falls ID <u>2/</u>	940	46	May-Jul	2973	2840	1862	2025
	880	47	May-Jun	2742	2566	1749	1882
<u>Okanogan River System</u>							
Similkameen River	970	68	May-Sep	3118	1865	816	1431
nr. Nighthawk	900	68	May-Jul	2949	1774	775	1325
	770	70	May-Jun	2426	1511	705	1103
Okanogan River	1170	73	May-Sep	3603	2096	869	1609
nr. Tonasket	1060	73	May-Jul	3273	1948	810	1449
	830	70	May-Jun	2646	1643	731	1190
<u>Methow River System</u>							
Methow River	580	60	May-Sep	1818	1263	593	969
nr. Pateros	550	61	May-Jul	1678	1183	557	895
	460	61	May-Jun	1383	985	503	748
<u>Chelan River System</u>							
Chelan River	710	62	May-Sep		1456	848	1148
at Chelan <u>3/</u>	630	63	May-Jul		1258	759	1001
	480	64	May-Jun		924	626	752
Stehekin River	530	64	May-Sep	1167	1044	641	827
at Stehekin	450	65	May-Jul	975	878	553	695
	335	66	May-Jun	704	608	442	509
Entiat River	156		May-Sep		298	154	--
nr. Ardenvoir	142		May-Jul		268	142	--
	118		May-Jun		197	123	--

* Forecasts made by Jack A. Wilson, Soil Conservation Service, Boise, Idaho.

2/ Observed flow corrected for storage in Couer d'Alene Lake and diversions by Spokane Valley Farms Company and Rathdrum Prairie Canals.

3/ Observed flow corrected for storage in Lake Chelan.

Streamflow Forecasts - May 1973 (Cont.)

Basin, Stream and Station	Forecast Runoff 1973	% 15-Yr. Avg.	Fore- cast Period	Seasonal Streamflow in Thousands of Acre-Ft.			15-Yr. Average 1953-67
				1972	1971	1970	
<u>Wenatchee River System</u>							
Wenatchee River	730	62	May-Sep	1764	1544	930	1183
at Plain	675	64	May-Jul	1523	1355	852	1053
	520	65	May-Jun	1109	952	715	802
Wenatchee River	965	60	May-Sep	2538	2104	1293	1606
at Peshastin	940	65	May-Jul	2216	1862	1195	1444
	730	66	May-Jun	1634	1318	1009	1108
Stemilt Basin nr. Wenatchee	102 *	78	May-Sep	145*	148*	123*	131*
<u>Yakima River System</u>							
Yakima River	65	55	May-Sep		176	108	118
nr. Martin <u>4/</u>	57	53	May-Jul		163	100	107
	48	55	May-Jun		124	91	88
Yakima River	380	48	May-Sep		1194	733	790
at Cle Elum <u>5/</u>	330	47	May-Jul		1073	670	707
	290	50	May-Jun		828	590	584
Yakima River	525	40	May-Sep		2543	1218	1308
nr. Parker <u>6/</u>	520	40	May-Jul		2290	1240	1292
	495	43	May-Jun		1823	1188	1153
Kachess River	47	46	May-Sep		157	93	102
nr. Easton <u>7/</u>	44	46	May-Jul		148	90	95
	39	48	May-Jun		115	83	81
Cle Elum River	210	50	May-Sep		579	386	415
nr. Roslyn <u>8/</u>	190	50	May-Jul		520	353	375
	150	50	May-Jun		385	301	303
Bumping River	65	49	May-Sep		183	119	133
nr. Nile <u>9/</u>	59	49	May-Jul		164	112	121
	51	53	May-Jun		114	97	97

* Thousands of Miners' inches

4/ Observed flow corrected for storage in Lake Keechelus.5/ Observed flow corrected for storage in Keechelus, Kachess and Cle Elum Lakes and diversion by Kittitas Canal.6/ Observed flow corrected for storage in Keechelus, Kachess, Cle Elum, Bumping and Rimrock Lakes and diversions by Roza, Union Gap, New Reservation, Old Reservation and Sunnyside Canals.7/ Observed flow corrected for storage in Lake Kachess.8/ Observed flow corrected for storage in Lake Cle Elum.9/ Observed flow corrected for storage in Bumping Lake.

Streamflow Forecasts - May 1973 (Cont.)

Basin, Stream and Station	Forecast Runoff 1973	15-Yr. Avg.	Seasonal Streamflow in Thousands of Acre-Ft. Fore- cast Period	15-Yr. Average		
				1972	1971	1970

Yakima River System (Cont.)

American River	57	51	May-Sep		162	119	112
nr. Nile	52	50	May-Jul		145	111	103
	42	50	May-Jun		104	97	83
Tieton River	115	53	May-Sep		297	220	216
at Tieton Dam <u>10/</u>	94	52	May-Jul		243	183	181
	75	54	May-Jun		169	147	138
Naches River	365	49	May-Sep		1038	748	748
nr. Naches <u>11/</u>	330	49	May-Jul		937	686	668
	280	51	May-Jun		722	601	547
Ahtanum Creeks	24	60	May-Sep	65	55	37	40
nr. Tampico <u>12/</u>	21	61	May-Jul	59	49	33	35
	19	62	May-Jun	49	40	29	30

Lower Columbia River System

Mill Creek	12	65	May-Sep		21	19	18
nr. Walla Walla	9	64	May-Jul		17	15	14
	7	60	May-Jun		15	13	12
Lewis River	535	56	May-Sep		1443	631	956
at Ariel <u>13/</u>	405	51	May-Jul		1222	514	796
	340	52	May-Jun		958	440	657
Cowlitz bl.	1000	60	May-Sep		2383	1246	1680
Mayfield Dam	840	59	May-Jul		2045	1056	1427
	645	57	May-Jun		1517	877	1132
Cowlitz River	1340	63	May-Sep		3043	1584	2125
at Castle Rock <u>14/</u>	1090	61	May-Jul		2587	1324	1794
	880	62	May-Jun		1918	1102	1426

OLYMPIC PENINSULADungeness River System

Dungeness River	105	69	May-Sep		178	122	153
nr. Sequim	85	70	May-Jul		136	101	122
	60	70	May-Jun		88	75	86

10/ Observed flow corrected for storage in Rimrock Lake.11/ Observed flow corrected for storage in Bumping and Rimrock Lakes and diversions by Tieton, Selah Valley, Wapatox Canals and City of Yakima.12/ Observed flow of North and South Forks (combined).13/ Observed flow corrected for storage in Lake Merwin, Yale and Swift Reservoirs.14/ Observed flow corrected for storage in Mayfield Reservoir.

COMPARISON OF SNOW COVER WITH THAT OF PREVIOUS YEARS

The following tabulation of Washington stream basins presents the water content of the snow about May 1, 1973, as percent of the same date in 1972 and 1971 and average of record.

Tributary Basin	No. of Courses Average	1973 Snow Water Expressed as percent of		
		1972	1971	1953-67
<u>UPPER COLUMBIA BASIN</u>				
Pend Oreille	14	42	49	55
Kettle	6	65	65	79
Spokane	7	31	36	45
Okanogan	30	39	51	59
Methow	2	42	48	64
Chelan	2	41	50	66
Entiat	7	34	40	60
Wenatchee	4	18	20	32
Yakima	8	28	28	39
<u>LOWER COLUMBIA</u>				
Mill Creek	1	20	26	40
White Salmon	2	26	24	42
Lewis	11	27	24	42
Cowlitz	5	31	37	46
<u>PUGET SOUND</u>				
Nisqually	3	32	-	-
White	2	42	39	64
Green	2	44	42	48
Snoqualmie	1	22	21	38
Skykomish	2	28	31	59
Skagit	11	34	40	60
Baker	8	46	50	59
Nooksack				
<u>OLYMPIC PENINSULA</u>				
Skokomish	3	55	-	-
Elwha	1	40	31	49
Dungeness	1	43	39	59



RESERVOIR STORAGE - 1000 Feet

BASIN or STREAM	RESERVOIR	USABLE ^{1/} CAPACITY	1973	Measured (May)		Normal*
				1972	1971	
<u>COLUMBIA</u>						
Spokane	Coeur d'Alene Lake	225.1	116.1	208.7	281.3	290.0
Columbia	Franklin D. Roosevelt Lake	5232.0	-42.5	497.3	743.6	2444.9
Columbia	Banks Lake	761.8	319.0	213.2	543.1	409.7
Okanogan	Conconully Reservoir	13.0	11.2	10.6	7.4	7.6
Okanogan	Salmon Lake	10.5	9.9	9.5	3.0	8.7
Chelan	Lake Chelan	676.1	195.2	205.1	192.6	210.0
<u>YAKIMA</u>						
Yakima	Keechelus Lake	157.8	127.0	106.1	98.4	120.6
Kaches	Kachess Lake	239.0	188.4	161.2	166.2	202.4
Cle Elum	Lake Cle Elum	436.9	319.0	171.6	238.0	323.2
Bumping	Bumping Lake	33.7	16.3	6.4	3.8	20.1
Tieton	Rimrock Lake	198.0	152.2	64.5	112.2	154.1
<u>PUGET SOUND</u>						
Skagit	Ross Reservoir	1202.0	722.2	768.7	775.9	628.4
Skagit	Diablo Reservoir	90.6	38.4	38.4	38.4	35.2
Skagit	Gorge Reservoir	9.8	8.4	8.4	8.5	- -

^{1/} Based on Active Storage
 * 15-year average 1953-67



SOIL MOISTURE - MAY

Drainage Basin and Station	Number	Elev.	Profile Depth	(Inches):		Soil Moisture Content		
				Total	Capacity:	(Inches) as of May 1		
						1973	1972	1971
<u>CRAB CREEK</u>								
Jack Woods	18B3m	2750	48	13.6	8.3		9.4	10.2
Krause	18B4m	2420	48	13.6	8.6		8.9	9.7
Sheffels	18B5m	2380	48	13.6	9.3		9.5	9.5
Sherman	18B7m	2440	48	13.6	7.5		8.7	8.8
Wheatridge	18B6m	2290	48	13.6	7.4		10.0	10.4
<u>OKANOGAN</u>								
Salmon Meadows	19A2M	4500	48	5.4	3.7		3.8	3.8
Trout Creek	3-M	3600	48	7.3	3.6		5.6	4.0
<u>YAKIMA</u>								
Domery Flat	21B20m	2200	48	6.9	Late Report		4.8	4.8
Lake Cle Elum	21B14M	2200	48	12.8	Late Report		9.1	9.2
<u>WALLA WALLA</u>								
Couse	17C3m	3650	48	11.1	7.4		10.5	10.0
Helmers	17C2M	4400	48	12.0	9.9		10.7	10.2
<u>WENATCHEE</u>								
Upper Wheeler	20B7M	4400	48	12.7	9.2		12.2	11.4

FALL SOIL MOISTURE

Drainage Basin and Station	Number	Elev.	Profile Depth	(Inches):		Soil Moisture Content		
				Total	Capacity:	(Inches) as of Oct. 1		
						1972	1971	1970
<u>CRAB CREEK</u>								
Jacks Woods	18B3m	2750	48	13.6	5.6		5.3	7.0
Krause	18B4m	2420	48	13.6	6.2		5.0	4.4
Sheffels	18B5m	2380	48	13.6	6.5		5.3	4.4
Sherman	18B7m	2440	48	13.6	4.6		4.0	3.8
Wheatridge	18B6m	2290	48	13.6	6.2		5.5	7.8
<u>OKANOGAN</u>								
Salmon Meadows	19A02M	4500	48	5.4	2.8		2.7	1.7
Trout Creek	3-M	3600	48	7.3	3.3		3.3	3.4*
<u>YAKIMA</u>								
Domery Flat	21B20m	2200	48	6.9	4.1		2.1	2.4
Lake Cle Elum	21B14M	2200	48	12.8	8.7		7.1	7.6
<u>WALLA WALLA</u>								
Couse	17C3m	3650	48	11.1	6.0		6.2	5.9
Helmers	17C2M	4400	48	12.0	7.7		8.2	7.3
<u>WENATCHEE</u>								
Upper Wheeler	20B7M	4400	48	12.7	5.7		6.5	5.1

* November 1 measurement

PRECIPITATION ^{1/}

Division Averages and Departures

Drainage Divisions	FALL		WINTER		SPRING	
	Sept-Oct Observed	1971 ^{2/} Departure	Nov.-1972--Mar.-1973 Observed	Departure	April--1973 Observed	Departure
Columbia in Canada	4.15	+ 0.26	9.74	- 2.95	0.99	- 0.39
Fend Oreille - Spokane	2.68	- 1.20	13.23	- 5.02	1.17	- 1.16
Northeastern Washington	2.16	- 0.09	8.58	- 2.51	0.77	- 0.66
Southeastern Washington	2.35	- 0.30	10.01	- 2.40	0.80	- 1.08
Central Washington	3.48	- 0.96	18.98	- 8.15	0.46	- 1.75
North Central Washington	1.04	- 0.37	4.70	- 1.64	0.15	- 0.62
Northwest Slope Cascades	10.41	- 1.26	39.43	-12.71	3.02	- 2.89
Southwest Slope Cascades	6.56	- 1.16	29.75	-11.12	2.28	- 2.05

Northeastern Washington	- Lower Spokane, Colville, Sanpoil and lower Kettle drainages.
Southeastern Washington	- Touchet, Tucannon and Palouse drainages.
Central Washington	- Yakima, Wenatchee and Chelan drainages.
North Central Washington	- Methow and Okanogan drainages.
Northwest Slope Cascades	- Puget Sound drainages.
Southwest Slope Cascades	- Lower Columbia drainages.

^{1/} - Preliminary analysis by National Weather Service from data furnished by Meteorological Services of Canada and National Weather Service.

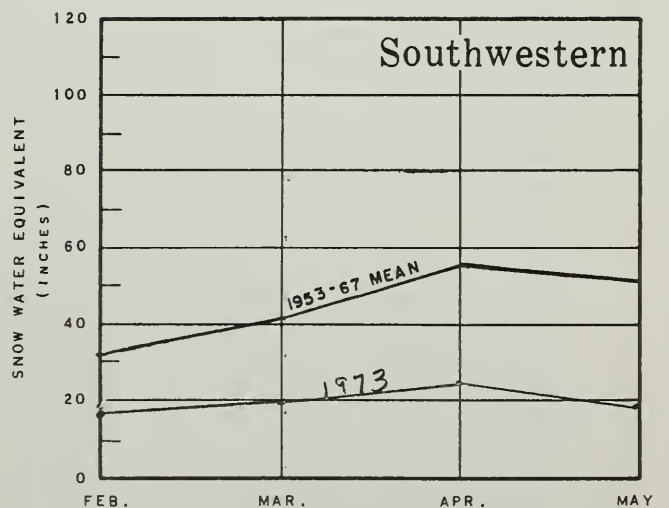
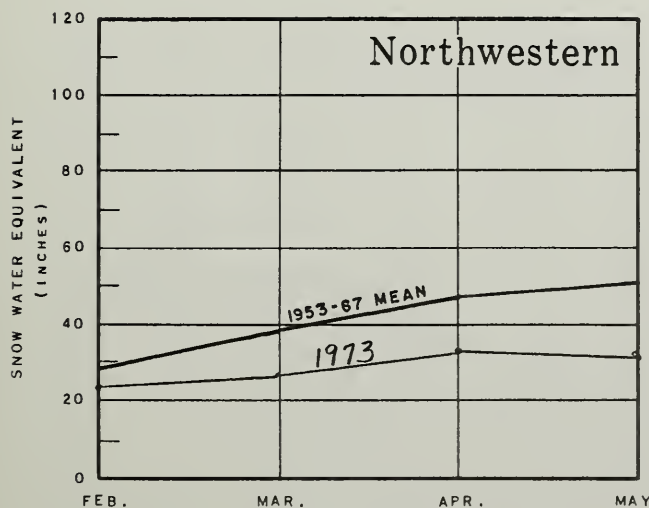
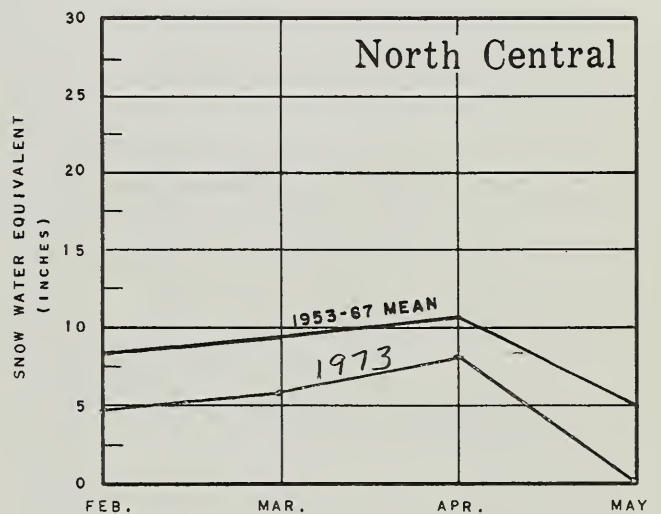
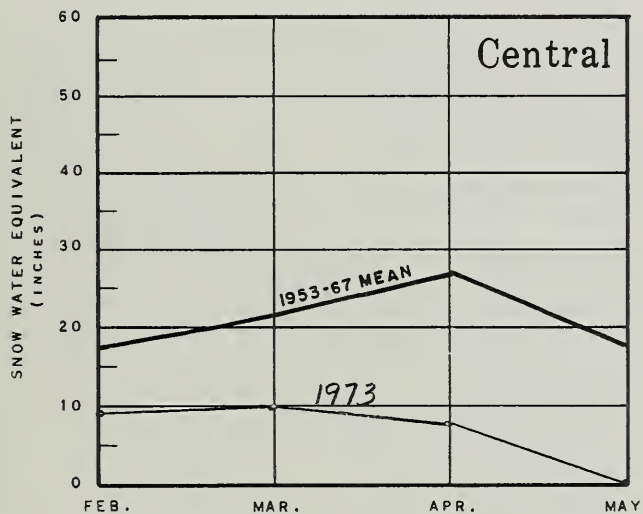
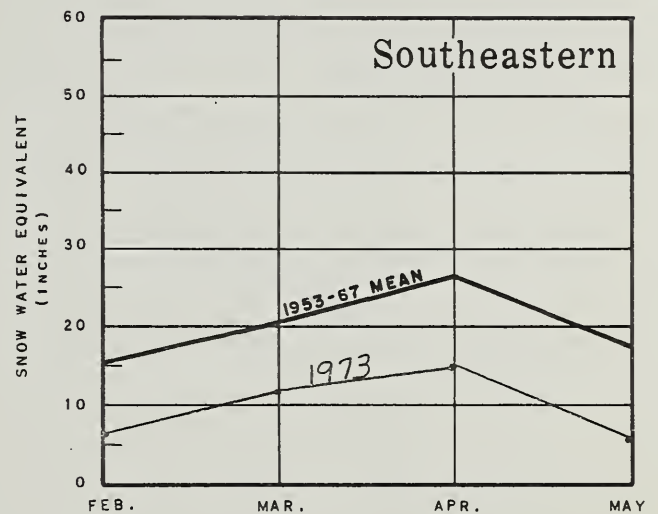
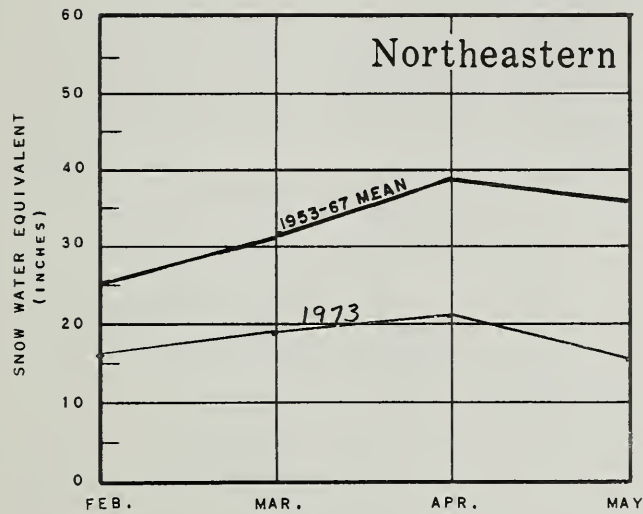
^{2/} - Departure from 15-year (1953-67) drainage division average.



WASHINGTON SNOW COVER

1973

DRAINAGE AREAS

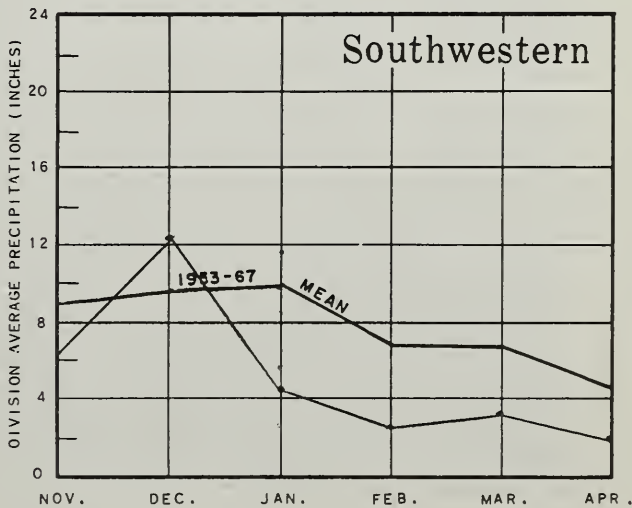
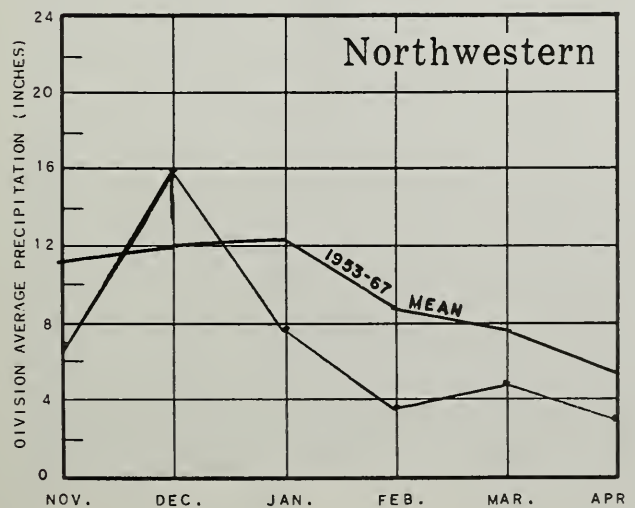
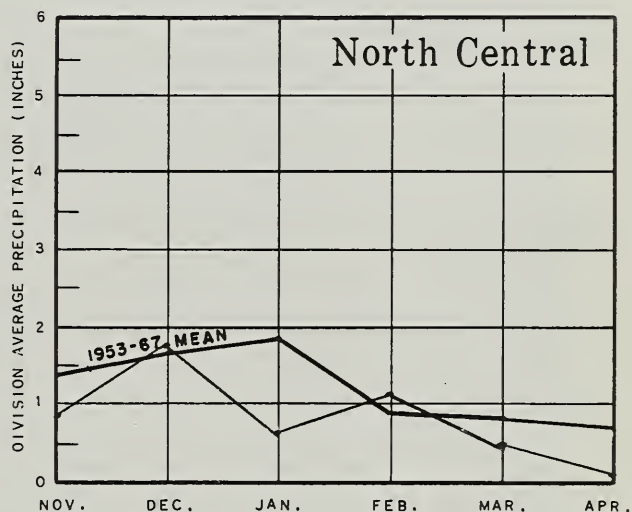
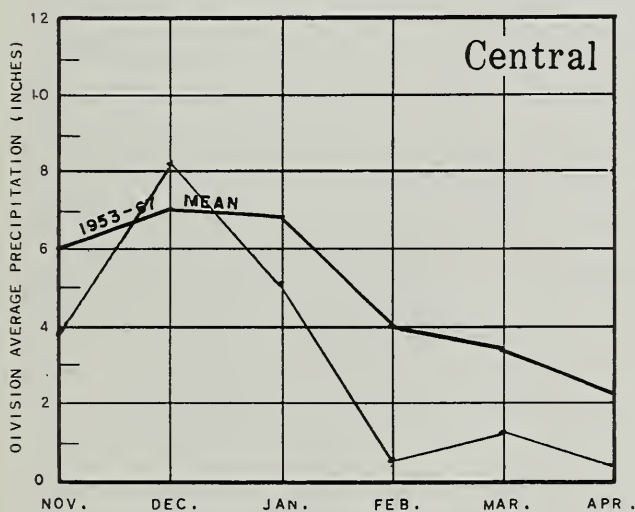
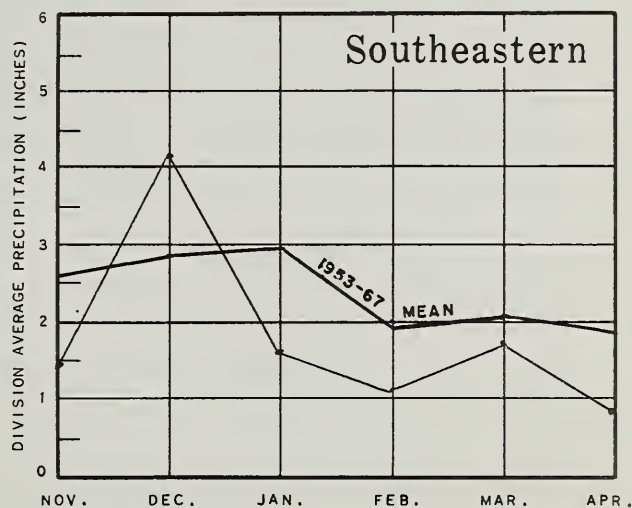
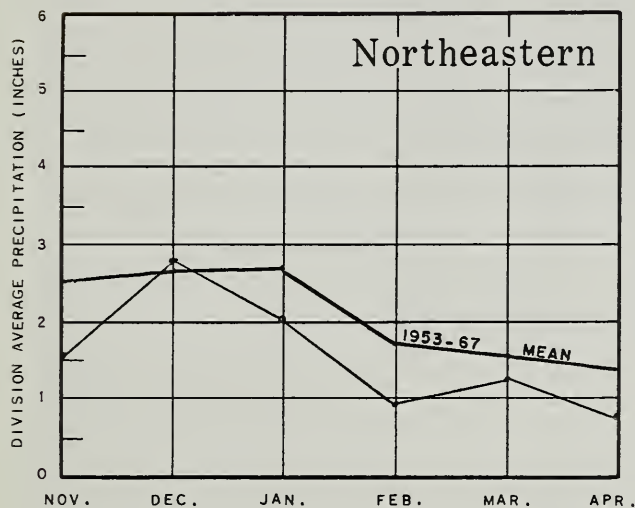




WASHINGTON VALLEY PRECIPITATION

1972 - 1973

DRAINAGE AREAS



171-U-ZZ020-2-L
USDA-SCS-PORTLAND, OREG. 1971

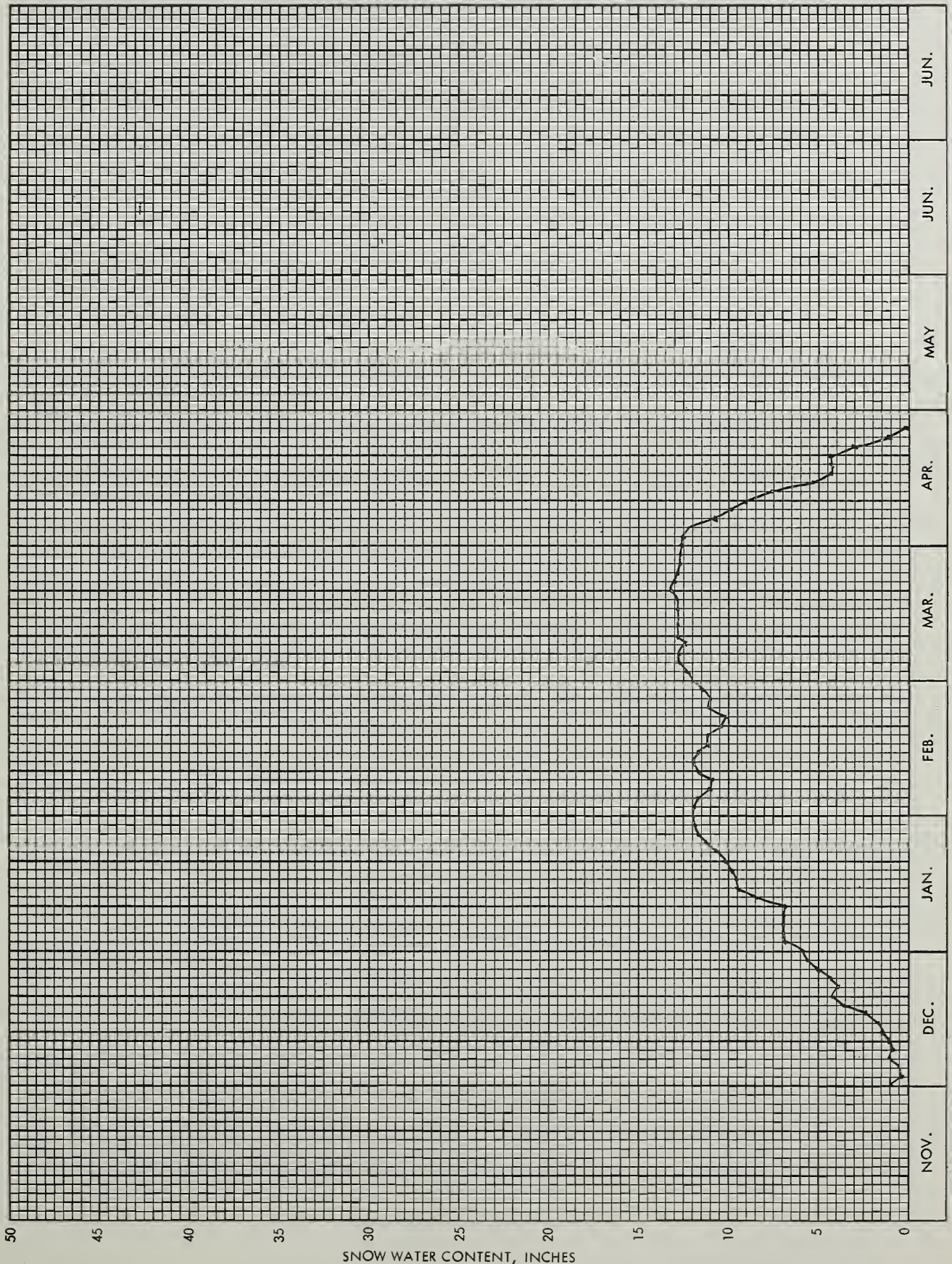
SNOW PILLOW DATA

1972 - 1973

Berne-Mill Creek

Sec. 13 T. 26N R. 14E No. 21B41SP Drainage: Wenatchee R.

Lat. 47° 45' Long. 121° 42' Elev. 3240'



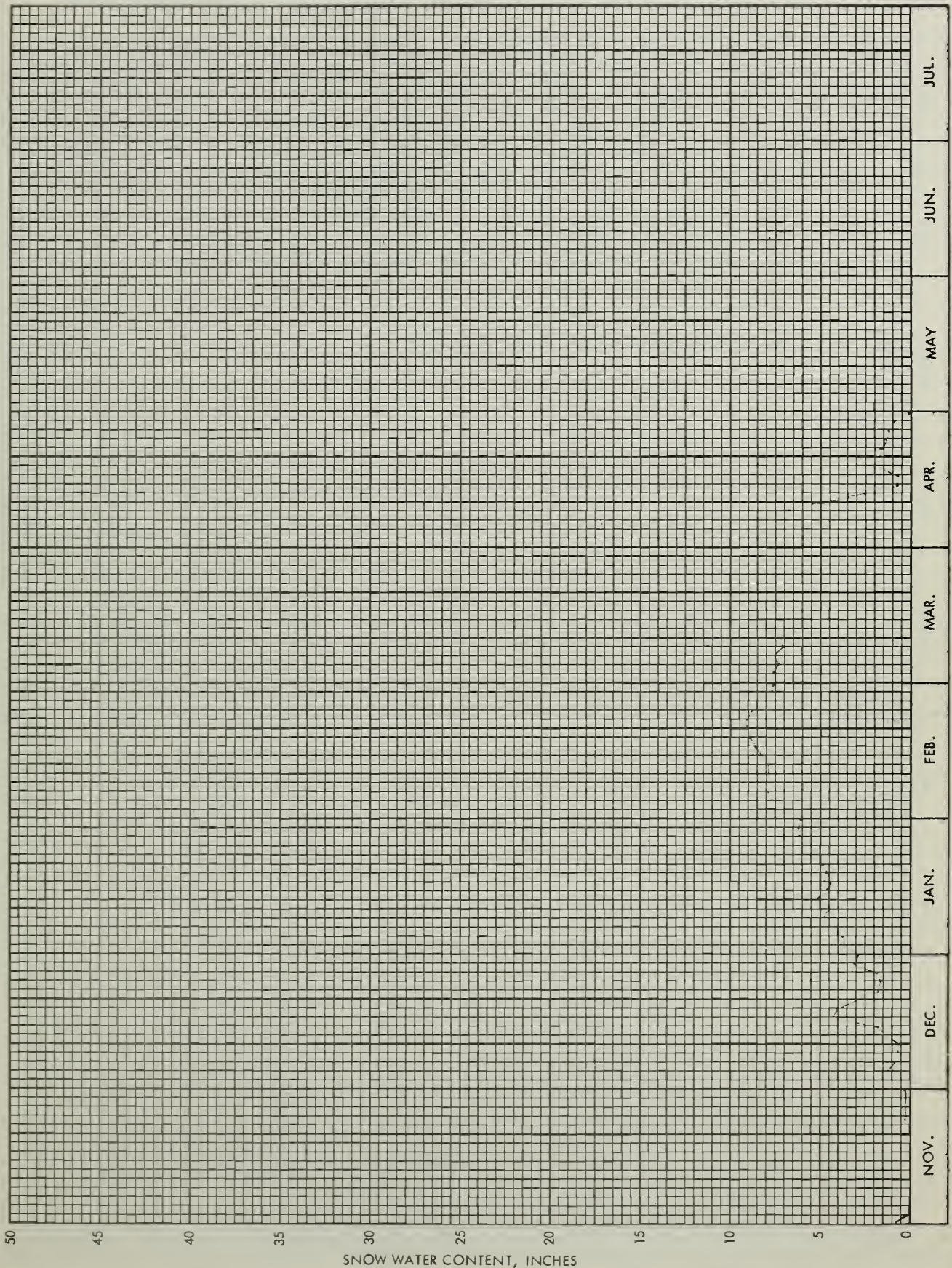
SNOW PILLOW DATA

1972 - 1973

Cougar Mountain - FS

Sec. 21 T. 21N R. 9E No. 21B42SP Drainage: Green River

Lat. 47° 17' Long. 121° 40' Elev. 3200'



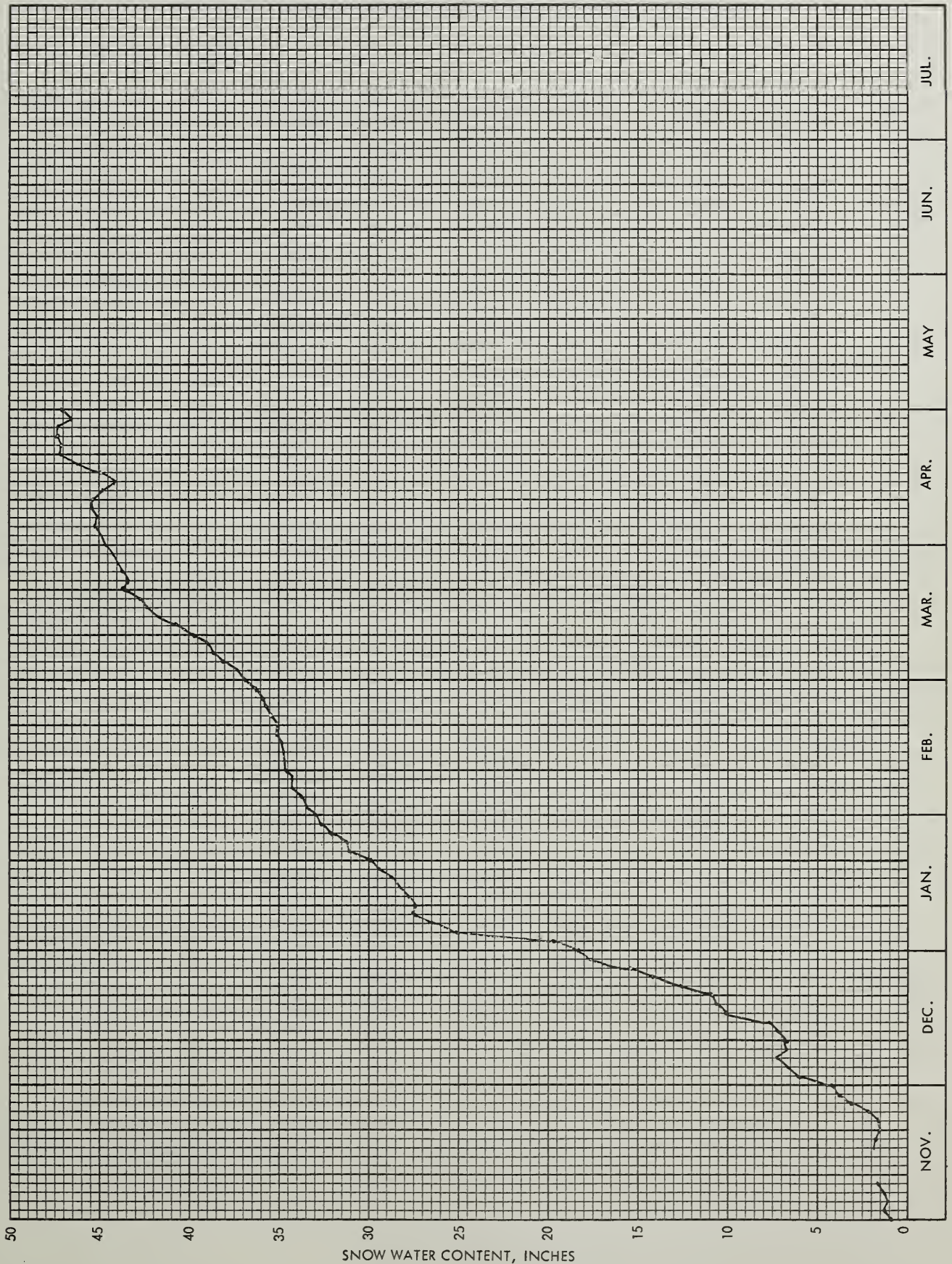
SNOW PILLOW DATA

1972 - 1973

Snowshoe Butte - 78

Sec. 28 T. 21N R. 9E No. 21B459P Drainage: Green River

Lat. 47° 13' Long. 121° 22' Elev. 5000'



SNOW DATA TO MAY 1, 1973 - APPENDIX 1

SNOW DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average [#]

U P P E R C O L U M B I A D R A I N A G EPEND OREILLE RIVER

Baree Creek	15B11	5500	5/1	62	26.6	69.3	48.4
Baree Midway	15B16	4600	5/1	43	18.0	49.7	35.8
Baree Trail	15B15	3800	5/1	0	0.0	1.8	1.0
Benton Meadow	16A02	2344	5/1	0	0.0	0.0	0.0
Benton Spring	16A03	4900	5/1	21	9.4	19.2	17.1
Boyer Mountain	17A02	5250	4/27	41	17.6	30.0	25.2
Brush Creek	14A04	5000	5/1	15	5.0	13.7	10.8
Bunchgrass Meadow	17A01	5000	4/27	54	24.8	36.0	30.4
Heart Lake Trail	14C10	4800	5/1	5	1.6	38.7	17.2
Hoodoo Basin	15C10	6000	5/1	78	34.8	88.0	55.8
Hoodoo Creek	15C01	5900	5/1	75	31.6	85.9	52.0
Lookout	15B02	5250	4/16	50	19.2	57.1	- -
			5/1	39	16.8	54.0	36.7
Mosquito Ridge SP	16A04A	5100	5/1	-	23.0	47.0	- -
Nelson	19-Can	3050	4/27	11	4.2	11.4	7.0
Schweitzer Bowl	16A06	4500	5/1	28	12.8	32.7	- -
Schweitzer Ridge			5/1	83	36.7	57.8	- -
Smith Creek	16A01	4800	5/1	72	33.4	59.8	49.4
Winchester Creek	17A03	2970	4/27	0	0.0	0.0	0.5

KETTLE RIVER

Barnes Creek	90-Can	5300	4/30	42	15.9	29.2	21.7*
Big White Mtn.	154-Can	5500	4/28	43	16.6	26.4	22.0*
Bluejoint Mtn.	244-Can	7500	Not Measured			New Course	
Boulder Road	18A02	1450	4/26	0	0.0	0.0	0.0
Butte Creek	18A03	4070	4/26	13	4.9	4.7	5.5
Cabin Creek	18A08	3170	4/26	0	0.0	2.0	1.4
Carmi	126-Can	4100	4/28	0	0.0	6.8	1.5*
Farron # 1	17-Can	4000	4/27	20	7.9	13.1	7.9*
Farron # 2	243-Can	4000	4/27	20	7.1	New Course	
Goat Creek	18A04	3595	4/26	0	0.0	0.0	- -
Graystoke Lake	5-Can	5950	4/27	50	18.4	- -	- -
Monashee Pass	48A-Can	4500	4/30	28	10.5	19.9	13.6*
Old Glory Mtn.	42-Can	7000	4/28	66	26.8	40.1	30.6*
Snow Caps Creek	18A05	2150	4/26	0	0.0	0.0	- -
Snow Caps Trail	18A06	2720	4/26	0	0.0	0.0	- -

Average based on 1953-67 average

* Average for years of record

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average*

KETTLE RIVER (Cont.)

Summit G. S.	18A07	4600	4/26	16	4.7	- -	6.3
Trapping Creek Upper	165-Can	4450	4/28	11	3.9	11.7	5.8*

SPOKANE RIVER

Above Burke	15B08	4100	5/1	9	3.0	32.1	- -
Copper Ridge	16B02	4800	4/30	0	0.0	40.3	27.8
Forty-nine Meadows	15B03	5000	4/25	25	10.0	43.5	30.6
Fourth of July Summit	16B03	3100	4/16	0	0.0	- -	- -
			5/1	0	0.0	0.0	- -
Granite Peak	15B13A	6000	4/25	75	30.9	89.3	- -
Kellogg Peak	16B05A	5560	5/1	32	13.8	- -	- -
Lookout	15B02	5250	4/16	50	19.2	57.1	- -
			5/1	39	16.8	54.0	36.7
Lost Lake	15B14A	6000	4/25	86	35.6	105.3	62.7
Lower Sands Creek	16B01	3400	4/30	0	0.0	28.0	14.6
Medicine Ridge	15B04A	6150	4/25	76	31.2	77.1	- -
Mosquito Ridge SP	16A04A	5110	5/1	-	23.0	47.0	- -
Outlaw Creek	15B12A	3750	Discontinued			0.0	8.0
Roland Summit	15B05A	5200	5/1	30	12.9	- -	- -
Sherwin	16C01	3200	4/27	0	0.0	18.4	- -
Sunset	15B09A	5600	5/1	39	16.8	- -	- -

OKANOGAN RIVER

Aberdeen Lake	6A-Can	4300	5/2	6	1.5	4.2	1.7*
Blackwall Peak	100-Can	6250	Late Report			58.0	39.8*
Bouleau Creek	31-Can	5000	4/30	18	6.5	14.7	- -
Bouleau Lake	234-Can	4580	4/29	34	6.9	18.2	- -
Brenda Mine	193-Can	4800	4/27	17	5.9	20.7	- -
Brookmere	27-Can	3200	4/30	5	2.1	16.5	6.0*
Clark +	19A08a	7000	Not Measured			48.3	24.4
Enderby	130-Can	6250	4/27	106	31.1	55.0	43.6*
Esperon Creek Lower	164-Can	4400	4/28	17	6.8	14.6	12.0*
Esperon Creek Middle	163-Can	4700	4/28	22	8.5	18.9	15.4*
Esperon Creek Upper	162-Can	5400	4/28	35	12.3	24.1	22.4*
Freezeout Meadows New	20A38	5000	4/26	50	20.9	39.2	- -
Graystoke Lake	5-Can	5950	4/27	50	18.4	37.0	31.2*
Hamilton Hill	107-Can	4900	4/28	21	7.9	33.0	13.8*

Average based on 1953-67 average

* Average for years of record

+ Snow water equivalent estimated from aerial stadia observation

SNOW DATA TO MAY 1, 1973 - APPENDIX 3

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average #

OKANOGAN RIVER (Cont.)

Harts Pass	20A05A	6500	4/26	71	32.4	71.3	49.8
Isintok Lake	152-Can	5510	4/28	16	4.8	17.2	7.6*
Lost Horse Mountain	105-Can	6300	5/1	26	8.2	21.8	10.9*
McCulloch	4-Can	4200	4/28	4	1.0	6.1	3.0*
Missezula Mountain	106-Can	5100	Late Report				
Mission Creek	5A-Can	6000	4/27	47	17.4	30.0	21.9*
Monashee Pass	48A-Can	4500	4/30	28	10.5	19.9	13.6*
Mount Kobau	156-Can	5950	4/30	26	7.7	17.6	14.6*
Mutton Creek No. 1	19A01	5700	4/27	0	0.0	23.0	10.0
Mutton Creek No. 2	19A04	6000	4/27	24	9.5	24.0	15.1
Mutton Creek No. 2 SP	19A11SP	6000	4/27	-	6.7	- -	- -
New Copper Mountain	46A-Can	4300	4/28	0	0.0	6.0	4.0*
New Pentiction Res. #2	183-Can	5225	4/30	20	5.8	15.2	- -
Nickel Plate Mtn.	47-Can	6200	4/29	18	5.0	17.0	9.0*
Oyama Lake	203-Can	4400	4/29	7	2.2	7.3	4.8*
Postill Lake	55-Can	4500	4/30	17	5.2	10.6	6.9*
Quartette Lake	34-Can	4000	4/29	21	6.6	23.6	- -
Rusty Creek	19A03	4000	4/27	0	0.0	0.0	1.3
Salmon Meadows	19A02	4500	4/27	0	0.0	10.7	5.0
Silver Star Mountain	99-Can	6050	4/29	63	26.0	44.2	28.7*
Summerland Reservoir	3A-Can	4200	Not Measured			14.4	- -
			4/29	12	3.7	14.5	7.7
Trout Creek	3-Can	4700	4/27	9	2.8	15.2	5.3*
Vaseux Creek	233-Can	4600	4/30	0	0.0	7.0	4.3*
White Rocks Mountain	70-Can	6000	4/27	47	18.4	35.9	33.2*

ENTIAT RIVER

Blue Creek G. S.	20B28a	5425	4/27	46	23.0	New Aerial	
Entiat Meadows +	20A33a	4800	4/27	50	25.0	61.2	37.0
Entiat River Trail +	20A34a	3150	4/27	0	0.0	14.4	9.0
Four Mile Ridge +	20B27a	7000	4/27	40	20.0	55.1	- -
Fox Camp +	20A36a	6510	4/27	80	40.0	92.8	57.6
Pope Ridge	20B20	4300	4/30	0	0.0	16.2	8.3
Pugh Ridge +	20A32a	6400	4/27	53	26.5	63.8	34.7
Shady Pass	20A37	5000	4/30	28	14.3	54.2	- -
Snow Brushy +	20A35a	3850	4/27	29	14.5	51.5	27.5
Tommy Creek +	20B21a	5300	4/27	15	7.5	30.6	21.2

Average based on 1953-67 average

* Average for years of record

+ Snow water equivalent estimated from aerial stadia observation



SNOW DATA TO MAY 1, 1973 - APPENDIX 4

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	Number	Elevation				Last Year	Average [#]

METHOW RIVER

Harts Pass	20A05A	6500	4/26	71	32.4	71.3	49.8
Loup Loup	19A07	4650	Not Measured			6.2	- -
Mutton Creek No. 1	19A01	5700	4/27	0	0.0	23.0	10.0
Mutton Creek No. 2	19A04	6000	4/27	24	9.5	24.0	15.1
Mutton Creek No. 2 SP	19A11SP	6000	4/27	-	6.7	- -	- -
Rusty Creek	19A03	4000	4/27	0	0.0	0.0	1.3
Salmon Meadows	19A02	4500	4/27	0	0.0	10.7	5.0

CHELAN LAKE BASIN

Greenwood Flat +	20A25a	3540	Not Measured				
Little Meadows +	20A24a	5275	Not Measured				
Lyman Lake	20A23A	5900	Not Measured				
Park Creek Flat +	20A13a	2220	Not Measured				
Park Creek Ridge	20A12A	4600	Not Measured				
Petersons +	20A16a	3730	Not Measured				
Rainy Pass	20A09	4780	4/27	74	33.0	69.0	43.9
Safety Harbor	20A30A	6300	4/25	40	17.3	51.1	30.2

WENATCHEE RIVER

Berne-Mill Creek	21B23	2925	4/30	8	3.8	43.5	18.2*
Berne-Mill Creek New SP	21B41SP	3240	4/30	0	0.0	28.2	- -
Blewett Pass No. 2	20B02	4270	4/11	10	4.2	31.8	12.1
			4/27	0	0.0	27.5	8.9
Chiwaukum G. S.	20B16	1810	4/30	0	0.0	11.6	- -
Fish Lake	21B04	3371	4/26	10	3.8	56.1	24.1
Lake Wenatchee	20B05	1970	4/30	0	0.0	14.4	- -
Leavenworth R. S.	20B17	1127	4/30	0	0.0	0.0	- -
Lyman Lake	20A23A	5900	Not Measured				
Merritt	20B18	2140	4/30	0	0.0	19.8	- -
Stevens Pass	21B01	4070	4/12	78	32.9	78.1	55.7
			4/30	68	31.4	92.8	53.5
Stevens Pass Sand Shed	21B45	3700	4/12	38	16.7	52.5	- -
			4/30	28	12.2	55.3	- -

Average based on 1953-67 average

* Average for years of record

+ Snow water equivalent estimated from aerial stadia observation

SNOW DATA TO MAY 1, 1973 - APPENDIX 5

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	Number	Elevation				Last Year	Average #

SQUILCHUCK CREEK

Beehive Springs	20B03	4400	4/25	0	0.0	4.3	- -
Scout-A-Vista	20B04	3400	4/25	0	0.0	0.0	- -

STEMILT CREEK

Jump-Off	20B08	4450	4/26	0	0.0	8.0	- -
Stemilt Slide	20B06	5000	4/26	0	0.0	14.0	4.0
Upper Wheeler	20B07	4400	4/26	0	0.0	0.0	- -

COLOCKUM CREEK

Colockum Creek Upper	20B22	5300	4/27	0	0.0	17.3	- -
Colockum Creek Lower	20B23	4300	4/27	0	0.0	1.8	- -

YAKIMA RIVER

Ahtanum R. S.	21C11	3100	Not Measured			0.0	0.0
Big Boulder Creek	21B09	3200	4/26	0	0.0	23.6	5.0
Blewett Pass No. 2	20B02	4270	4/11	10	4.2	31.8	12.1
			4/27	0	0.0	27.5	8.9
Bumping Lake	21C08	3450	4/12	7	3.4	19.5	13.3
			5/1	0	0.0	16.2	9.3
Bumping Lake New	21C36	3400	4/12	15	7.6	26.9	- -
			5/1	0	0.0	23.6	- -
Cayuse Pass	21C06	5300	4/26	120	53.9	139.1	- -
Fish Lake	21B04	3371	4/26	10	3.8	56.1	24.1
Grouse Camp	20B11	5385	Not Measured				
High Creek	20B12	2930	Not Measured				
Joe Lake +	21B46a	4624	4/25	75	33.8	2/	- -
Lemah Creek +	21B47a	3327	4/25	36	16.2	64.3	- -
Morse Lake	21C17	5400	4/30	79	39.8	87.8	62.4
Olallie Meadows	21B02	3625	4/18	55	19.2	79.2	51.0
			4/30	40	18.2	81.8	48.1
Stampede Pass SP	21B10	3860	4/17	-	23.4	43.8	48.6
			4/30	-	22.2	48.1	46.0
Tunnel Avenue	21B8	2450	4/13	9	4.3	35.3	21.5
			5/1	0	0.0	32.4	17.4
Van Epps Pass +	20B26a	5925	4/25	74	33.3	2/	- -
Waptus Lake +	21B49a	3024	4/25	30	13.5	65.8	- -

Average based on 1953-67 average

+ Snow water equivalent estimated from aerial stadia observation

2/ Aerial Marker Buried

SNOW DATA TO MAY 1, 1973 - APPENDIX 6

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	Number	Elevation				Last Year	Average #

YAKIMA RIVER (Cont.)

White Pass (E. Side)	21C28	4500	4/13	25	10.2	50.9	27.8
			Late Report			51.9	26.2
White Pass (L. Lake)	21C27	4500	Not Measured		- -	- -	29.6
			4/26	18	8.6	55.0	28.0

LOWER COLUMBIAASOTIN CREEK

Spruce Springs	17C04	5700	4/30	21	9.4	35.3	- -
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WHITE SALMON RIVER

Cultus Creek	21C12	4000	4/26	46	21.9	69.9	47.8
Surprise Lakes	21C13A	4250	4/26	39	18.5	88.7	50.5

WIND RIVER

Old Man Pass	21D19	3100	4/26	0	0.0	25.7	11.4
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LEWIS RIVER

Blue Lake +	21C22a	4800	4/26	114	53.5	144.0	90.1
Bob's Trail	21C21	2200	4/26	0	0.0	20.0	5.7
Calamity Ridge +	22D1a	2500	4/26	0	0.0	1.0	- -
Council Pass +	21C18a	4200	4/26	36	16.9	69.4	35.4
Cultus Creek	21C12	4000	4/26	46	21.9	69.9	47.8
Divide Meadow +	21C29a	5600	4/26	73	34.3	112.8	61.6
Grand Meadow	21C25	3500	4/26	2	1.1	38.2	22.2
Lone Pine Shelter	21C26	3800	4/26	45	20.3	63.9	45.3
Marble Mountain +	22C05a	3200	4/26	8	4.3	52.0	31.3
Mosquito Meadows	21C19	4100	4/26	48	21.7	65.2	- -
New Muddy River	22C06	1400	4/26	0	0.0	0.0	- -
Old Man Pass	21D19	3100	4/26	0	0.0	25.7	11.4
Plains of Abraham +	22C1a	4400	4/26	97	45.6	103.0	73.8
Smith Creek Road	22C04	2100	4/26	0	0.0	15.2	- -
Spencer Meadow +	21C20a	3400	4/26	0	0.0	30.4	13.0
Surprise Lakes	21C13A	4250	4/26	39	18.5	88.7	50.5
Table Mountain +	21C24a	4200	4/26	48	22.1	74.0	44.7
Timbered Peak +	21D18a	3000	4/26	0	0.0	11.8	12.3

Average based on 1953-67 average

+ Snow water equivalent estimated from aerial stadia observation

SNOW DATA TO MAY 1, 1973 - APPENDIX 7

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average $\frac{1}{2}$

COWLITZ RIVER

Cayuse Pass	21C06	5300	4/26	120	53.9	139.1	- -
Mosquito Meadows	21C19	4100	4/26	48	21.7	65.2	- -
Pigtail Peak	21C33	5900	4/13	81	36.5	124.7	- -
Plains of Abraham +	22C01a	4400	4/26	97	45.6	103.0	73.8
Potato Hill	21C14	4500	4/26	29	12.8	52.5	- -
White Pass (E. Side)	21C28	4500	4/13	25	10.2	50.9	27.8
			Late Report			51.9	26.2
White Pass (L. Lake)	21C27	4500	4/26	18	8.6	55.0	28.0

PUGET SOUND DRAINAGENISQUALLY RIVER

Ghost Forest	21C04	4550	4/26	47	22.2	88.5	- -
Longmire	21C03	2760	4/26	0	0.0	17.7	- -
New Paradise Park	21C35	5500	4/26	107	47.8	130.2	- -
Stem Glade	21C01	5050	4/26	95	43.0	123.2	- -

WHITE RIVER

Cayuse Pass	21C06	5300	4/26	120	53.9	139.1	- -
Morse Lake	21C17	5400	4/30	79	39.8	87.8	62.4

GREEN RIVER

Cougar Mountain SP	21B42SP	3200	4/30	0	0.0	23.4	- -
Snowshoe Butte SP	21B43SP	5000	4/30	81	42.6	101.7	- -
Stampede Pass SP	21B10	3860	4/17	-	23.4	43.8	48.6
			4/30	-	22.2	48.1	46.0

SNOQUALMIE RIVER

Olallie Meadows	21B02	3625	4/18	55	19.2	79.2	51.0
			4/30	40	18.2	81.8	48.1

SKYKOMISH RIVER

Stevens Pass	21B01	4070	4/12	78	32.9	78.1	55.7
			4/30	68	31.4	92.8	53.5
Stevens Pass S. Shed	21B45	3700	4/12	38	16.7	52.5	- -
			4/30	28	12.2	55.3	- -

Average based on 1953-67 average

+ Snow water equivalent estimated from aerial stadia observation

SNOW DATA TO MAY 1, 1973 - APPENDIX 8

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average [†]

SKAGIT RIVER

Beaver Creek Trail	21A06	2200	4/26	0	0.0	11.7	5.6
Beaver Pass	21A01	3680	4/26	38	16.4	50.6	35.0
Brown Top	21A28a	6000	4/26	111	47.8	104.4	- -
Cloudy Pass	20A22a	6500	Not Measured				
Devils Park	20A04	5900	4/26	78	34.9	74.8	49.2
Freezeout Cr. Trail	20A01	3500	4/26	8	4.2	19.0	8.3
Freezeout Meadows New	20A30	5000	4/26	50	20.9	39.2	- -
Granite Creek	21A29	3500	4/27	11	4.6	28.6	- -
Harts Pass	20A05A	6500	4/26	71	32.4	71.3	49.8
Hozomeen Lake	21A02	2600	4/26	0	0.0	9.9	5.8
Klesilkwa	35B-Can	3700	4/29	4	1.4	29.6	- -
Lyman Lake +	20A23A	5900	Not Measured				
Meadow Cabins	20A08	1900	4/28	0	0.0	3.8	2.0
New Hozomeen Lake	21A30	2800	4/26	0	0.0	13.0	- -
New Tashme	26A-Can	2500	Not Measured			17.1	- -
Quartette Lake	34-Can	4000	4/29	21	6.6	23.6	- -
Rainy Pass	20A09	4780	4/27	74	33.0	69.0	43.9
Thunder Basin	20A07	4200	4/28	43	14.3	36.8	26.9

BAKER RIVER

Baker Pass +	21A27a	4900	4/28	156	70.2	- -	- -
Dock Butte	21A11A	3800	4/17	134	59.0	- -	86.4
			4/28	119	54.0	110.0	87.1
Easy Pass	21A07A	5200	4/17	132	58.0	- -	- -
			4/28	148	66.5	125.6	107.4
Jasper Pass	21A06A	5400	4/17	178	78.0	- -	102.6
			4/28	163	71.8	134.0	113.6
Komo Kulshan	21A17	800	4/28	0	0.0	3.8	- -
Marten Lake	21A09A	3600	4/17	143	63.0	- -	92.3
			4/28	132	60.3	118.5	93.3
Mount Blum +	21A18a	5800	4/17	154	68.0	- -	- -
			4/28	142	63.9	- -	- -
Panorama New	21A26	4300	4/16	130	58.7	86.4	- -
			5/1	116	57.5	110.3	- -
Rocky Creek	21A12A	2100	4/17	40	18.0	- -	31.8
			4/28	19	8.7	43.7	20.4
Schreibers Meadow	21A10A	3400	4/17	96	42.0	- -	70.5
			4/28	102	45.4	89.6	73.7

Average based on 1953-67 average

+ Snow water equivalent estimated from aerial stadia observation

SNOW DATA TO MAY 1, 1973 - APPENDIX 9

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	Number	Elevation				Last Year	Average #

BAKER RIVER (Cont.)

S. F. Thunder Creek	21A14A	2200	4/17	3	1.0	- -	- -
			4/28	0	0.0	0.0	- -
Sulphur Creek	21A13	1600	4/28	0	0.0	19.9	- -
Three Mile Creek	21A15	4500	4/28	0	0.0	0.0	- -
Watson Lakes	21A08A	4500	4/17	134	59.0	- -	79.7
			4/28	116	49.6	114.4	83.6

NOOKSACK RIVER

Glacier Creek	21A23	3700	Not Measured			40.0	- -
Panorama New	21A26	4300	4/17	130	58.7	86.4	- -
			5/1	116	57.5	110.3	- -

OLYMPIC PENINSULADUNGENESS RIVER

Deer Park	23B04	5200	4/29	35	14.3	33.1	24.3
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MORSE CREEK

Cox Valley	23B14	4500	4/27	65	27.9	51.5	- -
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ELWHA RIVER

Hurricane	23B03	4500	4/26	36	13.8	34.4	28.0
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SKOKOMISH RIVER

Black & White	23B07	4200	4/26	71	31.2	59.5	- -
Black & White Lakes	23B06	4700	4/26	106	53.2	91.2	- -
Home Sweet Home	23B05	5200	4/26	138	64.3	116.0	- -

Average based on 1953-67 average

Agencies Assisting with Snow Surveys

GOVERNMENT AGENCIES

Canada:

Department of Lands, Forests and Water Resources,
Water Resources Service, British Columbia

States:

Washington State Department of Ecology
Washington State Department of Natural Resources

Federal:

Department of the Army
Corps of Engineers
U. S. Department of Agriculture
Forest Service
U. S. Department of Commerce
NOAA, National Weather Service
U. S. Department of the Interior
Bonneville Power Administration
Bureau of Reclamation
Geological Survey
National Park Service

PUBLIC AND PRIVATE UTILITIES

Chelan County P.U.D.
Pacific Power and Light Company
Puget Sound Power and Light Company
Washington Water Power Company

OTHER PUBLIC AGENCIES

Okanogan Irrigation District
Wenatchee Heights Irrigation District

MUNICIPALITIES

City of Tacoma
City of Seattle

Other organizations and individuals furnish valuable information for snow survey reports. Their cooperation is gratefully acknowledged.

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